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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,819	10/24/2003	Harold J. Vinegar	5659-21200 / TH2561	1428
7590	09/22/2005		EXAMINER	
DEL CHRISTENSEN SHELL OIL COMPANY P.O. BOX 2463 HOUSTON, TX 77252-2463			THOMPSON, KENNETH L	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/693,819	VINEGAR ET AL.	
	Examiner Kenn Thompson	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 8 April 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 583-624 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 600-624 is/are allowed.
- 6) Claim(s) 583-586, 590, 592, 593, 597 and 599 is/are rejected.
- 7) Claim(s) 587-589, 591, 594-596 and 598 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)              |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 583, 584, 586, 590, 592 and 599 are rejected under 35 U.S.C. 102(b) as being anticipated by Carter et al., U.S. 4,256,945.

Regarding claims 583, 584, 590, 592 and 599, Carter et al. discloses an electrical conductor (col. 7, lines 44-57) having an electrically resistive ferromagnetic material (col. 3, lines 5-17) surrounding a copper non-ferromagnetic material (25) a conduit (31) and centralizer (29). Applicant should note that the method of forming a device is not germane to the patentability of the device itself.

As to claim 586, Carter et al discloses the conduit (31) being of an electrically conductive material (col. 7, line 66 – col. 8, line 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 585, 593 and 597 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al., U.S. 4,256,945.

As to claims 585 and 593, Carter et al. discloses the centralizer (29) being made of a insulating material (col. 7, lines 59-65) and the ferrous material. Carter et al. does not disclose the insulating material is silicon nitride. However it would have been obvious to one having ordinary skill in the art at the time of the invention to arrange for the insulating material disclosed by Carter et al. to be silicon nitride, since it has been held that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

As to claim 597, Carter et al. discloses the heater. Carter et al. does not disclose the heater being longer than 10 meters. However it would have been obvious to one having ordinary skill in the art at the time of the invention to arrange for the heater disclosed by Carter et al. to be longer than 10 meters, since a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

#### ***Allowable Subject Matter***

Claims 600-624 are allowed.

Claims 587-589, 591 and 594-596 and 598 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest all the claimed limitations including the welded electrical conductor portions.

The prior art of record does not disclose or suggest all the claimed limitations including a configuration to pyrolyze the subsurface formation.

The prior art of record does not disclose or suggest all the claimed limitations including the second ferromagnetic material.

The prior art of record does not disclose or suggest all the claimed limitations including the reduced heat being less than 400 watts per meter of length.

The prior art of record does not disclose or suggest all the claimed limitations including the heat output below the selected temperature is greater than 400 watts per meter of length.

The prior art of record does not disclose or suggest all the claimed limitations including the resistance profile.

The prior art of record does not disclose or suggest all the claimed limitations including the turndown ratio~~s~~ being 2 to 1.

The prior art of record does not disclose or suggest all the claimed limitations including the subsurface heater having a electrically resistive ferromagnetic material surrounding a non-ferromagnetic material, a centralizer and conduit.

The prior art of record does not disclose or suggest all the claimed limitations including the ferromagnetic material configured to provide a reduced amount of heat above or near a selected temperature that is about 20% or less of the heat output at about 50 degrees C below the selected temperature.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenn Thompson whose telephone number is 571 272-7037. The examiner can normally be reached on 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

19 September 2005



Kenn Thompson  
Primary Examiner  
Art Unit 3672